Greenville
NORTH CAROLINA

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RESIDENTIAL SWIMMING POOLS, SPAS and HOT TUBS PERMITTING and INSPECTIONS GUIDE

This guide is designed to assist customers who wish to install swimming pools, spas, and hot tubs on residential sites. If you have any questions about what inspections your particular installation may require, please call the Inspections Division at (252) 329-4466.

FREQUENTLY ASKED QUESTIONS

Why are permits required for pools, spas, and hot tubs?
It is required by State law (G.S. 160A-417). Obtaining the proper permits and inspections helps ensure that the equipment is properly installed and has the appropriate safeguards in place that will help prevent injuries and deaths due to drowning, near-drowning, and electrocution. It helps the City and the Inspections Division in our mission to provide for the health, safety, and welfare of Greenville's citizens.

Who makes the rules for pools, spas, and hot tubs?
The State's design requirements are set forth in Appendix G of the North Carolina Residential Code.

HOW TO APPLY FOR A PERMIT

To apply for a permit, you will need *all* of the following documents:
☐ Completed Permit Application
☐ Plot Plan (see sample plot plan on our web site at www.greenvillenc.gov)

- Draw with a permanent pen (no pencil) showing the entire lot with the outline of all buildings located on the lot
- Draw to an engineer's scale (1/4" = 1') using the largest scale that will fit on 8½" x 11"or 8½" x 14" paper
- Include cantilevers, decks, porches, driveways, retaining walls, HVAC equipment and electrical service/meter
- Include easements, buffers and the setback table from the recorded plat along with any other deed restrictions
- Include dimensions for all proposed buildings and structures consistent with the plans provided for review
- Indicate the distance from each property line to the proposed building or structure at the nearest point as measured at a right angle to the respective property line
- For swimming pools, spas or hot tubs include the associated pool decking surround (usually concrete, masonry or stone), the distance of the decking surround to the property line and the location of the required barrier fencing
- Include impervious surface calculations on lots where impervious limitations are listed on the recorded plat
- Provide a plot plan stamped "Approved" by the appropriate county if a well or septic system exists on the lot

GENERAL INFORMATION

Generally, inspections for pools, spas, and hot tubs will cover four areas:

(1) Electrical work
(2) Proper barrier protection
(3) Entrapment protection
(4) Pool heater = clearances/gas piping/venting

Required inspections may vary depending upon the specific equipment and installation, such as mechanical work for heated pools. It is the responsibility of both the owner and contractor to ensure that the installation is done in compliance with all applicable laws and regulations.

IMPORTANT!

- Water ***must not be added*** to pool until the barrier has been inspected and approved by the City for compliance with Appendix G of the North Carolina Residential Code

ELECTRICAL INSPECTIONS for POOLS

Electrical work must comply with Article 680 of the National Electrical Code. Typical inspections are listed below. Other inspections may be required depending upon the specific equipment and installation.

Electrical Groundwork Inspection includes, but is not limited to:

- Bare copper ties to wall rebar
- Potting compound at underwater lights
- Bare copper ties to metal light fixture shells, cups for ladders, handrails, etc.
- Other bonding & grounding depending on type of pool
- Junction boxes
- Underground conduits
- Underground copper ties from house/electrical panel to pool equipment
- Equipotential bonding of perimeter surfaces

Electrical Final Inspection includes, but is not limited to:

- Pool equipment grounding
- Junction boxes
- Completion of electrical work
- Ground fault protection
- Required receptacles, required distances

ELECTRICAL INSPECTIONS for SPAS and HOT TUBS

Electrical work must comply with Part IV of Article 680 of the North Carolina Electrical Code, which includes all pertinent sections of Parts I and II. Typical inspections are listed below. Other inspections may be required depending upon the specific equipment and installation.

Electrical Rough-in Inspection (Groundwork) includes, but is not limited to:

- Required on spas and hot tubs installed outside (equipotential bond and power to tubs or spas)

Electrical Final Inspection includes, but is not limited to:

- Pool equipment grounding
- Junction boxes
- Completion of electrical work
- Ground fault protection
- Required receptacles, required distances

MECHANICAL INSPECTIONS FOR POOLS, SPAS, and HOT TUBS (if applicable)

If the pool, spa, or hot tub is fueled by natural or propane gas, then the mechanical gas piping work must comply with the North Carolina Mechanical and Fuel Gas Codes

Mechanical and Gas Piping Rough-In Inspections includes but is not limited to:

- Inspection of heating equipment components (verify clearances, etc.)
- Inspection of gas piping that will be concealed (ex. underground / under slab / under patio)
- Gas piping pressure test of any gas piping that will be concealed (visual inspection / pressure gauge)

Mechanical and Gas Piping Final Inspections includes but is not limited to:

- Inspection of fuel fired equipment and components (verify clearances, combustion air etc.)
- Inspection of complete gas piping system
- Gas piping pressure test of total complete system

BUILDING INSPECTIONS FOR POOLS, SPAS, and HOT TUBS

Building inspections for residential pools, spas, and hot tubs are performed to verify compliance with the barrier and entrapment protection requirements set forth in Appendix G of the North Carolina Residential Code (NCRC).

Some of the requirements are listed below.

Building Final Inspection includes, but is not limited to:

BARRIERS (provide a sketch of the existing or proposed fence for this property)

- Top of fences or solid barriers shall be 48 inches
- Maximum clearance under the barrier is 2 inches
- Openings must not allow passage of a 4-inch diameter sphere
- Horizontal members of fences must be at least 45 inches apart with 4-inch space between vertical members
- Horizontal members of fences less than 45 inches apart require 1¾ inches or less between vertical members
- Decorative cutouts in barrier must not exceed 1¾ inches
- Solid barriers shall not have protrusions or indentations that can be used for climbing
- Gates shall be self-closing, self-latching device, and open away from pool
- Release mechanism height is required to be at least 54 inches
- Release mechanism heights less than 54 inches require gate and barrier to have openings no greater than 0.5 inches for 18 inches on each side of the mechanism and 3 inches below the top of gate on the pool side
- Doors with pool access require an alarm that activates within 7 seconds, is audible for 30 seconds, and can be heard throughout house
- The alarm shall be listed in accordance with UL 2017
- A deactivation switch is allowed that at 54 inches above the door threshold and lasts for not more than 15 seconds
- Self-closing, self-latching doors may be used instead of an alarm if the opening mechanism is at least 54 inches above the door threshold
- Ladders or steps to an above-ground pool must be capable of being secured, locked, or removed, or have a barrier surrounding the pool access point
- Barriers must be kept away from permanent structures to prevent climbing

EXCEPTION: Spas or hot tubs may have a safety cover complying with ASTM F 1346

ENTRAPMENT PROTECTION

- Suction fittings must comply with ANSI /ASME A112.19.8M or must have covers at least 18 inches x 23 inches
- Safety vacuum release systems must conform to ASME A112.19.17
- Two required suction outlets shall be at least 36 inches apart
- Suction outlets shall be piped so that water is drawn through them simultaneously through a vacuum-relief-protected line to the pump or pumps
- Pool cleaner fittings shall be in an accessible location between 6 inches and 12 inches below the minimum operable water level